

# Notice of Allowability

Application No.

09/836,844

Applicant(s)

HANSON ET AL.

Examiner

Brian L. Mutschler

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 19 August 2004.
2. ☒ The allowed claim(s) is/are 1-8,10-18,20-28,31-35,47-54 and 56-63.
3. ☒ The drawings filed on 21 May 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

**In the specification:**

On page 1 under the heading "CROSS-REFERENCE TO RELATED APPLICATIONS", please replace the text "Not Applicable" with the following:

This application is a continuation of U.S. Application No. 09/416,235 filed on October 12, 1999, now abandoned.

2. The following is an examiner's statement of reasons for allowance:

The instant claims are distinguished over the prior art of record by providing an apparatus for processing a microelectronic workpiece that is neither taught nor suggested by the prior art of record. Claims 1-8, 10-18, and 20-28 include a limitation wherein the control system is operatively coupled to the second chemical delivery system and the drive mechanism and programmed to direct the drive mechanism to move the workpiece during application of the spray. Reid et al. (US '702) disclose an apparatus having a fluid delivery system and a drive mechanism to move the workpiece, but Reid et al. do not teach a control system coupled that is coupled to the fluid delivery system and programmed such that the workpiece is moved while being sprayed. This is

not an obvious modification to the apparatus of Reid et al. because Reid et al. teach the desirability of minimizing the contamination of the plating solution, which would not clearly result from moving the workpiece while it is being sprayed.

Claims 31-35 include a limitation requiring the apparatus to be configured to tilt the workpiece. While Reid et al. teach a similar structure for rinsing workpieces, the apparatus does not have the ability to tilt the workpiece. The apparatus of Reid et al. is designed to rinse the workpieces in a horizontal position, so modifying the apparatus to tilt would change the fluid deflection within the apparatus, which would require further modifications to the apparatus to accommodate this deflection. Therefore, since the apparatus of Reid et al. is designed to operate with the wafers in a horizontal position, modifying the apparatus to tilt would change the operation of the apparatus.

Claims 47-63 recite an apparatus including a limitation requiring two annular channels for receiving at least a portion of the processing fluid, wherein the two annular channels are in fluid communication with each other via a common outlet. While Reid et al. teach the use of two annular channels, the channels have separate and distinct outlets so that the plating solution is not diluted by the processing fluid. Therefore, Reid et al. teach away from the use of a common outlet. In U.S. Pat. No. 6,050,275, Kamikawa et al. disclose an apparatus for cleaning objects wherein the object is moved to different processing positions and fluid delivery systems are used. However, Kamikawa et al. also teach that it is desirable to separate the two fluids so that they are not influenced by one another.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (571) 272-1341. The examiner can normally be reached on Monday-Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLM  
September 23, 2004



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SUPERVISORY PATENT EXAMINER  
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